IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Applicant:	Lee Watts, et al.
Serial No.:	10/775,033
Filed:	February 9, 2004
Group Art Unit:	3753
Examiner:	Fox, John C.
Title:	EXHAUST PIPE VALVE

Mail Stop Appeal Brief-Patents
Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450

REPLY BRIEF

Dear Sir:

Responsive to the Examiner's Answer dated December 17, 2010, please consider the following remarks. The appeal brief fee has already been paid. Any additional fees or credits may be charged or applied to Deposit Account No. 50-1482 in the name of Carlson, Gaskey & Olds.

REMARKS

Appellant respectfully reiterates all of the arguments made in the Appeal Brief and in previous Office Action responses to address the Examiner's Answer. Additional arguments, prepared in response to new issues raised in the Examiner's Answer, are set forth below.

A. Anticipation Rejection - Cook

Claims 1, 5, 9, 11-17, 26-29, and 31-32 stand rejected under 35 U.S.C. 102(b) as being anticipated by Cook (US 5401001).

Claims 1, 9, 11-17

The examiner argues that elements 24, 36, and 38 collectively function as a valve spindle in that they rotatably mount the valve blade and seal the journal bearing 28 against fluid leakage, which is analogous to the disclosed valve spindle and nothing at all like a housing or a bellows. First, the bellows 44 creates a bias force provide sealing contact to washer 40 within the housing 18, see col. 4, lines 51-57. As such, there is no seal against fluid leakage in Cook unless there is a bellows 44 and housing 18. Simply, having three washers on shaft mounted within a bearing does not rotatably mount the valve blade and seal the bearing against fluid leakage.

Second, Cook does not teach direct contact between the bearing sleeve and valve spindle as claimed. The examiner argues that washer 38 is read as being part of valve spindle 24. Specifically, the examiner argues that there is no language found in the claims or the specification that require the spindle to be a single piece or which precludes the spindle from being a plurality of elements. Appellant respectfully asserts that the examiner's interpretation is not reasonable as it renders the claim language meaningless.

Claim 1 recites that the valve spindle has a primary sealing surface that is in direct abutting engagement with the primary bearing surface of the bearing sleeve. This is clearly shown in Figures 3, 4, and 7-9. Further, as set forth in claim 1, this contact is a primary seal. As described in the specification, this contact interface provides a primary seal that almost entirely prevents any leakage of the exhaust gas through the valve. Cook discloses two separate washers 36, 38 that are located between the shaft and the bearing. One of ordinary skill in the art would not interpret Cook as disclosing direct contact between the shaft and the bearing, especially as each added washer component increases the amount of leakage that would occur.

Further, the washers 36, 38, 40 in Cook cannot be reasonably considered as being the shaft because they are described as separate components and are made from different materials and serve different purposes (see col. 4, lines 22-28). The shaft 24 is comprised of stainless steel (see col. 5, lines 38-43). Washer 36 is a metal washer that is mounted on the shaft 24, and

washer 38 is a ceramic thrust washer that is assembled onto shaft 24 to space washer 36 from bearing 28. Washer 40 is also a ceramic washer that is mounted on shaft 24 to be disposed against the outer end of the bearing 28. Thus, Cook clearly teaches the use of ceramic washer as an intermediary component to be placed between the bearing 28 and an adjacent abutting structure. One of ordinary skill in the art would not consider these ceramic washers to be part of a multi-piece stainless steel shaft.

Even if the metal washer 36 could somehow be considered as being part of the valve shaft 24, there still is no teaching in Cook of direct contact between washer 36 and the bearing 28. Instead, Cook clearly teaches the insertion of an intermediary ceramic washer 38. Cook also states that due to operation in harsh environments, the disclosed selection of materials is important (see col. 5, lines 38-43 and claim 1).

In the alternative, the examiner argues that washers 36 and 38 can be read as part of the bearing 28. This reasoning fails for the same reasons that the examiner's interpretation of Cook disclosing a multi-piece shaft 24, 36, 38 fails. Cook teaches a specific combination of elements, in a specific order, and made from specific materials. As discussed above, Cook teaches that the disclosed selection of materials is important such that the valve assembly can be operated in harsh environments. Cook teaches that the shaft 24, washer 36, and bearings 26, 28 are made from a stainless steel material. Cook also teaches that the washers 38, 40 are comprised of a ceramic material (see col. 4, lines 22-28, and claim 1 at col. 6, lines 34-40). As such, appellant respectfully asserts that it is not reasonable to consider the ceramic washers as being part of the stainless steel bearing 28.

As such, Appellant respectfully asserts that Cook does not disclose or teach a valve spindle rotatably mounted in the bearing sleeve that has a primary sealing surface that is in direct abutting engagement with the primary bearing surface of the bearing sleeve. Thus, Cook cannot anticipate claims 1, 9, and 11-17.

Claim 5

Claim 5 is allowable for the same reason claim 1 is allowable. Further, claim 5 recites that a nut is mounted on the valve spindle. The examiner argues that Cook discloses a structure

62 that looks and acts like a nut defined in the specification. Element 62 in Cook is not a nut. Instead, Cook describes element 62 as a deformed portion of the shaft 24 (see col. 4, lines 36-39). Thus, Cook does not anticipate claim 5.

Claim 26

The examiner argues that claim 26 should stand or fall with claim 1. Appellant respectfully disagrees and asserts that claim 26 is allowable for reasons in addition to the reasons for claim 1. Claim 26 recites that the bearing sleeve is sandwiched directly between the washer and the valve spindle.

Cook does not disclose or teach a bearing sleeve that is sandwiched directly between a washer and a valve spindle. The examiner has presented various arguments as to why bearings 36, 38, and 40 can be considered as part of the bearing or the shaft; however, claim 26 specifically recites that the bearing is sandwiched between the valve spindle and a washer. Cook simply does not disclose or teach this configuration. Cook clearly teaches that the stainless steel bearing 28 is sandwiched between two ceramic washers. The examiner is clearly engaging in a hindsight reconstruction of the invention by using applicant's structure as a template and selecting only a certain washer from the multiple washers as being part of the claimed bearing or shaft to meet the claim language without explaining either why the non-selected washer is eliminated from the assembly, or explaining how components made from different materials can be considered as being the same component. Thus, Appellant respectfully asserts that Cook does not anticipate claim 26.

Claim 27

The examiner argues that Cook discloses that bearing 28 is pressed into bore 52 and is thus read as not requiring the crimp, which is redundant. In response to appellant's arguments to the contrary, the examiner argues that it is inherent in Cook that the crimp is redundant.

Appellant respectfully asserts that there is no basis for this assumption. Cook clearly recites that both bearings are installed into their respective bores and then a crimping operation is performed to secure the bearings in the housing (see col. 3, line 52- col. 4, line 12). Cook states

that this mounting configuration, i.e. the mounting configuration that includes the crimp, creates a bearing to housing wall sealing interface. As stated at col. 3, line 53 through col. 4, line 2:

> Body 18 is metal, such as a nodular iron, which possess a certain degree of ductility. This allows bearings 26, 28 to be crimped in place on body 18 by respective crimps 46, 48 after they have been disposed in respective mounting holes 50, 52 that extend through bosses in diametrically opposites sides of wall 20 between the interior and exterior of body 18. Prior to mounting of bearing 26 in its hole 50, crimp 46 has not yet been formed. This allows bearing 26 to be pressed into hole 50 from the outside of body 18 until a shoulder 54 that extends around the outside of the bearing abuts a shoulder 56 of hole 50. Then the exterior of the boss is deformed against the bearing to create the crimp. This mounting of bearing 26 in wall 20 creates a surface to surface sealing of the bearing to the wall, and since the bearing contains a blind journal hole for receiving the end of shaft 24, exhaust gases cannot leak from the valve's interior via this bearing.

Cook clearly does not disclose or suggest that the crimp is a redundant fastening step. Further, the fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic." In re Rijckaert, 9 F.3d 1531, 1534; 28 USPQ2d 1955, 1957 (Fed. Cir. 1993). "To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. There mere fact that a certain thing may result from a given set of circumstances is not sufficient.'" In re Robertson, 169 F.3d 743; 49 USPQ2d 1949, 1950-1951 (Fed. Cir. 1999). "In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." Ex parte Levy, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990).

Cook clearly teaches that the crimping connection is needed to provide the required sealing interface and to securely hold the bearings in place. The examiner argues that Cook disclose that the bearing is pressed into the bore and that there is a seal between the OD of the bearing and the ID of the bore. However, as discussed above, this sealing interface is only

described as occurring after the crimping action has take place. As such, appellant respectfully asserts that it is not inherent in Cook that the crimp is redundant.

Cook does not disclose or teach a bearing that is press-fit into the housing and is secured in place without requiring any additional securing structures as claimed. Thus, Cook cannot anticipate claim 27.

Claim 28

The examiner argues that claim 28 is a "grammatically wanting recitation" and argues that claim 28 is interpreted to recite that the bearing 28 is the only bearing sleeve at that location. Specifically, the examiner quotes claim 28 as stating "wherein the bearing sleeve comprising a sole bearing structure . . . ." The examiner has failed to recite the remaining portion of claim 28 which further clarifies the claimed feature.

Claim 28 recites: "wherein the bearing sleeve comprising a sole bearing structure that supports the valve spindle." It is clear that the term "comprising" is a typographical error that should read "comprises". Appellant respectfully asserts that claim 28 is clear and concise, and is fully compliant with 35 U.S.C. 112. Further, if the examiner was unclear as to the meaning of claim 28, the examiner certainly had the opportunity to reject the claim under 35 U.S.C. 112, second paragraph, as being indefinite. The examiner has not presented such a rejection.

Claim 28 is very clear in that claim 28 recites that the claimed bearing sleeve is the sole bearing structure that supports the valve spindle. The term "sole" means "being the only one; only." See http://dictionary.reference.com/browse/sole. In other words, claim 28 recites that the claimed bearing sleeve is the only bearing structure that supports the valve spindle.

The examiner has argued that bearing 28 corresponds to the claimed bearing sleeve. It is clear from Figure 2 of Cook that bearing 28 is not the "sole" or "only" bearing structure that supports the shaft 24. Shaft 24 is additionally supported by the bearing 26. Thus, the examiner's rejection of claim 28 should be reversed.

Claim 29

The examiner argues that Figure 8 of Cook shows the abutment of the shoulder and the bearing as being within the bore. Appellant respectfully disagrees. Figure 8 is a magnified view of Figure 2 (see col. 2, lines 46-47). Figure 2 clearly shows that the shoulder 24d of the shaft 24, which is inboard of washer 26, is not within the claimed bore of the housing. The structures that are aligned with this shoulder are elements 82, 84 which are described as arcuate ledges formed within the interior of the cylindrical wall 20 (see col. 5, lines 23-26) which act as stops for the blade 32. Thus, Cook does not anticipate claim 29.

Claim 31

The examiner argues that the scope of a generally constant diameter is met by the bearing sleeve of Cook. Claim 31 recites: "the bearing sleeve is defined by an overall axial length extending from a first end face to a second end face, and wherein an outer diameter of the bearing sleeve is generally constant from the first end face to the second end face. Specifically, the examiner argues that Cook discloses this feature because the majority of the bearing has a constant outer diameter.

The term "constant" means "1. Not changing or varying; uniform; regular; invariable." See http://dictionary.reference.com/browse/constant. Cook does not disclose or teach a bearing that has an outer diameter that is generally constant from one end face to another end face. Each end of the bearing 28 includes a reduced diameter portion. Further, Cook specifically describes the bearing 28 as including a shoulder 58 that is required to locate the bearing within the valve body 18. Further, the bearing sleeve 28 includes an opposing shoulder about which the crimp 48 is formed. As such, Cook clearly does not disclose or teach a bearing sleeve that has a generally constant outer diameter from a first end face to a second end face. Thus, claim 31 is not anticipated by Cook.

Claim 32

The examiner argues that Cook discloses a housing with a generally constant inner diameter from one end of the claimed bore to the opposite end of the bore. Specifically, the

examiner argues that Cook discloses this feature because the majority of the cylindrical portion has a constant inner diameter. Appellant respectfully disagrees.

The cylindrical portion of the housing in Cook is disclosed as being defined by at least three different inner diameters. Further, the bore is specifically described as having an initial inner diameter that allows the bearing 28 to be inserted into the bore, with a subsequent crimping operation being performed at 48, which clearly changes the dimension of the inner diameter at the outboard end. As such, Cook clearly does not disclose or teach a cylindrical portion of a housing that has a constant inner diameter from one end of a bore to an opposite end of the bore. Thus, claim 32 is not anticipated by Cook.

B. Obviousness Rejection - Cook

Claims 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cook (US 5401001).

Claims 11-12

Appellant respectfully asserts that claims 11-12 are allowable for the same reasons set forth above with regard to claim 1.

C. Obviousness Rejection – Cook and Fodor

Claims 6-7 stand rejected under 35 U.S.C. 103(a) as being unpatentable under 35 U.S.C. 103(a) over Cook (US 5401001) in view of Fodor et al. (US 5496142).

Claim 6

Claim 6 recites that the spring is a spring washer. The examiner argues that it would be obvious to substitute the spring washer of Fodor for the diaphragm spring of Cook. Appellant respectfully asserts that claim 6 is allowable for the same reasons set forth above with regard to claim 5.

Further, appellant respectfully asserts that Cook teaches a beneficial configuration that is provided by the bellows 44 (see col. 4, lines 29-62). Substituting a spring washer would defeat

the benefits provided by the bellows. The United States Supreme Court has confirmed that "when the prior art teaches away from combining certain known elements, discovery of a successful means of combining them is more likely to be non-obvious" (KSR Int'lCo. v. Teleflex, Inc. et al., 127 S.Ct. 1727 (2007)). Further, the proposed modification cannot render the prior art unsatisfactory for its intended purpose (see MPEP 2143.01 (V)) and cannot change the principle of operation of a reference (see MPEP 2143.01 (VI)).

The examiner argues that a beneficial configuration can also be provided by the spring of Fodor in that it is designed for the same high temperature environment. However, Cook requires a certain axial length of the bellows in relationship to the axial dimensions of parts 36, 38, 28, and 40 (see col. 4, lines 42-48) to provide the desired biasing configuration and desired sealing configuration.

Fodor teaches the use of a washer with a split that must be mounted within a recessed mounting member to restrict radial movement of the outside diameter of the washer (see Figure 1 and claim 1). A spring such as that taught by Fodor would simply not work within the Cook configuration as the axial length and sealing interfaces would be adversely affected.

Thus, claim 6 is allowable over the recited combination.

Claim 7

Appellant respectfully asserts that claim 7 is allowable for the same reasons set forth above with regard to claim 1.

D. Obviousness Rejection – Cook and Ong

Claims 19-22 stand rejected under 35 U.S.C. 103(a) as being unpatentable under 35 U.S.C. 103(a) over Cook (US 5401001) in view of Ong et al. (US 5645900).

Claims 19-22

The examiner argues that Ong teaches a sealing means that is equivalent to the sealing means of Cook, and that it is obvious to use the sealing means of Ong in place of the sealing means of Cook. Appellant respectfully disagrees.

Ong teaches coatings that are used to address the problems of corrosion and wear (see col. 1, lines 24-28). There is nothing found in Ong to suggest that the structure taught by Ong is an equivalent for the sealing structure taught by Cook. Thus, claims 19-22 are allowable over the recited combination.

E. Obviousness Rejection – Cook and Bartz

Claims 24-25 stand rejected under 35 U.S.C. 103(a) as being unpatentable under 35 U.S.C. 103(a) over Cook (US 5401001) in view of Bartz (US 1911787)

Claim 24

Claim 24 is allowable for the same reasons claim 1 is allowable. Further, claim 24 recites that the secondary sealing and secondary bearing surfaces have conical profiles. The examiner argues that Bartz discloses a bearing 17 and a bushing 45 which is read as a seal, and that these structures have conical provides. Appellant respectfully disagrees.

Bartz describes element 45 as "packing" (see page 2, lines 1-4). The examiner argues that the packing is a seal; however, there is nothing found in Bartz to suggest that this packing 45 comprises a seal. Further, packing 45 appears to be comprised of a porous material. Bartz discloses that a washer 44 engages the packing 45 positioned between the bearing 17 and the shaft 16.

Appellant respectfully asserts that there is nothing found in Bartz to suggest that components 45 and 17 providing a sealing surface as claimed. Further, claim 24 recites that the secondary sealing surface of the washer has a conical profile. There is nothing found in either reference that would suggest that a washer be modified to include a conical sealing surface. Packing 45 clearly cannot be considered as corresponding to the claimed washer as Bartz teaches that a washer 44 engages the packing 45.

The examiner additionally argues that appellant has argued for both claims 24 and 25 because the "Ong et al do not show a conical seal." The examiner further argues that Ong discloses both a seal and a seal with a conical shape. Ong does not disclose or teach any type of seal. However, Appellant is assuming the examiner is referring to the Bartz reference. For the

reasons set forth above, Bartz does not disclose or teach forming a washer to have a conical shape as claimed.

Thus, claim 24 is clearly allowable over the recited combination.

Claim 25

Claim 25 is allowable for the same reasons claim 1 is allowable. For the reasons set forth above with regard to claim 24, Appellant respectfully asserts that the recited combination does not disclose or teach secondary sealing and secondary bearing surfaces that have conical profiles.

Further, the recited combination does not disclose or teach a valve shaft with a primary sealing surface that has a conical profile. The examiner fails to identify where either reference discloses or teaches a valve spindle with a primary sealing surface that has a conical profile. The shaft 24 in Cook clearly does not disclose such a configuration. Bartz also does not disclose such a shaft, see Figure 3. As such, there is nothing found in either reference to suggest that a washer should be formed to have a conical shape, let alone teaching that a bearing sleeve should have a conical profile on both ends to provide primary and secondary seals as claimed.

Thus, claim 25 is clearly allowable over the recited combination.

F. Obviousness Rejection – Thauer and Kuramoto

Claims 1, 3-5, 11-16, 24-28, and 31-32 stand rejected under 35 U.S.C. 103(a) as being unpatentable under 35 U.S.C. 103(a) over Thauer (US 3693935) in view of Kuramoto et al. (US 4231341).

Claims 1, 3-5, 11-13, 15-16, 24-25, 28, 32

The examiner argues that it would be obvious to replace the bearing of Thauer with a bearing as taught by Kuramoto, such that the bearing is surrounded by the housing. Appellant respectfully asserts that Thauer teaches away from such a modification.

Thauer discloses a beneficial bearing arrangement where the bearing 3 includes an enlarged flange 4 that is used to radially position the bearing within the bore and which abuts against an outer surface of the housing in a sealing relation therewith (see col. 2, lines 1-12).

Modifying Thauer in the manner proposed by the examiner would eliminate the capability of accurately adjusting the radial position of the bearing as taught by Thauer and would eliminate a sealed interface between flange and the housing. Thus, Thauer clearly teaches away from the proposed modification and such a modification would render Thauer unsatisfactory for its intended purpose.

The examiner argues that positioning a bearing in the proper place is routine and is easily accomplished by the bearing of Kuramoto. Appellant respectfully disagrees. Thauer discloses a bearing 3 that is threadably attached to the housing within the bore 1 of the housing. Radial positioning of the bearing within the bore is properly set once the flange 4 abuts against the housing. There is no such positioning structure found within the bearing 12 of Kuramoto, and thus, there would be no way to properly position the Kuramoto bearing at the desired radial location within the bore 1 of Thauer. Further, the bearing of Kuramoto would no longer abut against an end face of the housing in a sealing relationship therewith, which would clearly render Thauer unsatisfactory for its intended purpose.

Claim 1 further recites the feature of a washer arranged on the valve spindle, wherein the washer cooperates with the bearing sleeve on a side of the bearing sleeve that faces away from the valve plate, the side of the bearing sleeve that faces away from the valve plate being a secondary bearing surface, and wherein the washer has a secondary sealing surface that cooperates with the secondary bearing surface.

The examiner argues that Kuramoto teaches both inner and outer seals and thus of both with Thauer is suggested by Kuramoto. Appellant respectfully disagrees. The examiner has argued that Kuramoto teaches a bearing 12 and a washer 20 that have corresponding conical profiles. However, as seen in Figure 3, this bearing 12 does not have a sealing interface located at the inner end of the bearing 12. Thauer also does not disclose or teach seals at both ends of a bearing.

As such, there is nothing found in either reference, or in the prior art, to suggest that a bearing sleeve be sealed at both ends as claimed. The only teaching of this is found in the subject application. The examiner is clearly engaging in a hindsight reconstruction of the

claimed invention, using appellant's structure as a template and selecting elements from the references to fill the gaps. This is not permissible under 35 U.S.C. 103(a).

The examiner has argued that the bearing of Thauer be replaced with the bearing of Kuramoto with conical seals at both ends as taught by Kuramoto. For the reasons set forth above, neither reference discloses or teaches sealing at both ends of a bearing sleeve as claimed. Also, due to the complete seal provided between collar 8 and bearing 3, Thauer discloses that the conical surfaces at this sealed interface center the shaft 5 within the bore 3a to provide adequate clearance for a full 360 degrees between the shaft 5 and bore 3a to prevent binding of the shaft within the bore.

Collar 20 of Kuramoto, which the examiner argues should be included in Thauer, teaches a sealing interface by having the collar 20 be sealingly fitted on the shaft 13 (see col. 2, lines 42-43). Sealing this collar 20 on the shaft 5 of Thauer in the manner taught by Kuramoto would not provide the adequate clearance as required by Thauer. Thus, Thauer teaches away from the proposed modification. Further, such a modification would render Thauer unsatisfactory for its intended purpose and would change the principle of operation of Thauer.

Thus, claims 1, 3-5, 11-13, 15-16, 24-25, 28, 32 are allowable over the recited combination.

Claims 14 and 27

The examiner argues that a threaded bearing and a press-fit bearing are equivalent and that the threaded bearing of Thauer should be replaced by the press-fit bearing of Kuramoto. Appellant respectfully disagrees.

One of the benefits provided by Thauer is that the shaft 5, valve 7, bearing 3, spring 11, and lever 12 are pre-assembled as a unit prior to application to the pipe 2, such that the unit can be easily installed by threading the bearing 3 into the bore 1. See col. 2, line 64 through col. 3, line 5. Further, the threaded attachment interface assists in radially positioning the bearing and provides sealing contact with the end face of the housing (see col. 2, lines 1-12). There is no structure found in the Kuramoto bearing that radially positions the bearing within the bore and provides the sealing contact as taught by Thauer. Thus, the examiner's proposed modification

would eliminate the threaded attachment assembly and sealing/locating flange, which would defeat the benefits provided by Thauer. The examiner's proposed modification cannot render the prior art unsatisfactory for its intended purpose and cannot change the principle of operation of the base reference. See MPEP 2143.01. Thus, claims 14 and 27 are allowable over the recited combination because Thauer clearly teaches away from the examiner's proposed modification.

Claim 26

Claim 26 is allowable for the same reasons claim 1 is allowable. Further, claim 26 recites that that the bearing sleeve is sandwiched directly between the washer and the valve spindle. Neither reference discloses or teaches a bearing sleeve that is directly sandwiched between a spindle and washer as claimed.

The examiner argues that this feature is shown in the Prior Art. Appellant respectfully disagrees. Thauer teaches a bearing 3 that is sandwiched directly between the collar 8 and a disc 13. The disc 13 provides the beneficial use of a heat shield. Kuramoto discloses a bearing 12 that engages a collar 20 at one end and is free from engagement with any structure at an opposite end (see Figure 3). As such, Appellant respectfully asserts that neither reference teaches the features of claim 26.

Claim 31

The examiner argues that the features of claim 31 are disclosed in Thauer as modified by Kuramoto. As discussed above, Thauer discloses a bearing 3 that includes an enlarged flange at one end that is useful to radially position the bearing in the bore in an accurate manner (see col. 2, lines 1-12). For the reasons set forth above, modifying Thauer to include a bearing such as that taught by Kuramoto would defeat the benefits provided by Thauer and would render Thauer unsatisfactory for its intended purpose.

G. Obviousness Rejection – Thauer, Kuramoto, and Cook

Claims 9 and 17 stand rejected under 35 U.S.C. 103(a) as being unpatentable under 35 U.S.C. 103(a) over Thauer (US 3693935) in view of Kuramoto et al. (US 4231341) and further in view of Cook (US 5401001).

Claims 9 and 17

Claims 9 and 17 are allowable for the same reasons claim 1 is allowable. Cook does not make up for the deficiencies of Thauer and Kuramoto.

H. Obviousness Rejection – Thauer, Kuramoto, and Fodor

Claims 6-7 stand rejected under 35 U.S.C. 103(a) as being unpatentable under 35 U.S.C. 103(a) over Thauer (US 3693935) in view of Kuramoto et al. (US 4231341) and further in view of Fodor et al. (US 5496142).

Claims 6 and 7

Claims 6 and 7 are allowable for the same reasons claim 1 is allowable. Fodor does not make up for the deficiencies of Thauer and Kuramoto.

Further, a spring such as that taught by Fodor would simply not work within the Thauer configuration because the spring of Fodor must be mounted within a recess formed in a mounting structure to prevent radial expansion of the washer. Replacing the coil spring 11 of Thauer with such a spring from Fodor would clearly result in an interference of the operation of the lever.

I. Obviousness Rejection – Thauer, Kuramoto, and Ong

Claims 19-22 stand rejected under 35 U.S.C. 103(a) as being unpatentable under 35 U.S.C. 103(a) over Thauer (US 3693935) in view of Kuramoto et al. (US 4231341) and further in view of Ong et al. (US 5645900).

Claims 19-22

Claim 19 is allowable for the same reasons claim 1 is allowable. Further, claim 19 recites that there is a ceramic coating disposed on at least a portion of at least one of the valve spindle and the washer. The examiner argues that it would be obvious to use a plurality of titanium coatings with the bearing surfaces of Thauer as a substitution of one known element for another. Appellant respectfully disagrees. There is nothing found in Kuramoto or Ong to suggest that a coating be applied to a valve spindle shaft or bearing sleeve. Thus, claims 19-22 are allowable over the recited combination.

J. Obviousness Rejection – Thauer, Kuramoto, and Hester

Claims 29-30 stand rejected under 35 U.S.C. 103(a) as being unpatentable under 35 U.S.C. 103(a) over Thauer (US 3693935) in view of Kuramoto et al. (US 4231341) and further in view of Hester et al. (US 3916943).

Claims 29-30

The examiner has admitted that Thauer does not disclose the claimed configuration but states that it would be obvious to modify Thauer to dispose the primary seal as taught by Hester to provide an effective primary seal. Appellant respectfully asserts that there is no basis to support this assertion. Hester does not disclose or teach a bearing with primary and secondary sealing bearing surfaces engaging primary and secondary sealing surfaces within a bore as claimed. Thauer and Kuramoto also do not disclose or teach such a configuration.

Further, Hester is not relevant as is directed to plastic plug valve to control the flow of corrosive fluids. Hester is clearly not within the field of the inventor's endeavor and is not reasonably pertinent to the problem with which the appellant was involved.

The examiner provides no additional arguments with regard to claims 29 and 30.

Thus, claims 29-30 are allowable over the recited combination.

CONCLUSION

For the reasons set forth above and in the Appeal Brief, the rejection of all claims is improper and should be reversed.

Respectfully submitted,

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